

Gregory D. Lancaster
Principal Scientist

Work at INEEL:

Greg Lancaster joined INEEL in 1990. Since 1999, he has worked as a co-inventor of the Change Detection System (CDS) technology, a system that uses software to make image comparisons and notes in exacting detail the changes and similarities among them. Greg has served as the Principal Investigator on several CDS-related programs and he currently is managing all applications and modifications of CDS functionality. This includes tailoring CDS for use in more than two dozen general areas such as national security.

From his CDS-related development efforts, Greg has acquired an extensive knowledge base of digital camera image acquisition and processing techniques. By applying techniques from his varied professional experience base, Greg has successfully overcome significant issues related to performing experiments in diverse environmental settings, including the Arctic wilderness.

His efforts in other areas include work in Russia on an explosively driven laser and at the ISU Accelerator Center in the study of laser-electron beam interaction Physics.

Previous Work:

From 1986 to 1990, he worked at Lawrence Livermore National Laboratory in the design, development and field-testing of new and innovative integrated optic devices for measuring very high bandwidth electrical and optical signals associated with the Nuclear Weapons Testing program at the Nevada Test Site.

From 1983 to 1986 he worked at EG&G Las Vegas in the development and calibration of optical, electro-optical and electronic components to support experimental field-testing at the Nevada Test Site for the Lawrence Livermore National Laboratory.

Special Achievements:

INEEL Lifetime Achievement Award for Inventors

Education:

Greg holds a B.S. in Industrial Technology from University of Idaho and an Associate of Applied Science (A.A.S.) in Laser-Electro Optics from Idaho State University

Patents for the following, plus five patents are pending:

Method for the detection of nitro-containing compositions using ultraviolet photolysis;
Sensor system for buried waste containment sites;
Volatile organic compound sensing devices;
Device for aqueous detection of nitro-aromatic compounds;
Detection device for high explosives.

Publications:

Author/Co-author on numerous research documents presented at National and International Conferences. These documents include the publication of research in newspapers, internationally distributed scientific publications, DOE publications and INEEL reports/publications.